

REMARKS

Claims 1-3, 6-8 and 11-12 are pending in this application. By this Amendment, the title is amended as suggested by the Patent Office. No new matter is added by this Amendment.

Entry of the amendments is proper under 37 CFR §1.116 since the amendments: (a) place the application in condition for allowance (for the reasons discussed herein); (b) do not raise any new issue requiring further search and/or consideration (as the amendments amplify issues previously discussed throughout prosecution); (c) satisfy a requirement of form asserted in the previous Office Action; (d) do not present any additional claims without canceling a corresponding number of finally rejected claims; and (e) place the application in better form for appeal, should an appeal be necessary. The amendments are necessary and were not earlier presented because they are made in response to arguments raised in the final rejection. Entry of the amendments is thus respectfully requested.

I. Allowable Subject Matter

Applicants note with appreciation that claims 3, 7 and 8 are allowable.

II. Title Objection

The title was objected to as allegedly not being descriptive. Solely to expedite the prosecution of this application, the title has been amended to "Electric Discharge Machining a Passage Using a Backing Member" as suggested by the Patent Office.

Applicants submit that the title is descriptive. Reconsideration and withdrawal of the objection are thus respectfully requested.

III. Rejection Under 35 U.S.C. §112, first paragraph

Claims 11 and 12 were rejected under 35 U.S.C. §112, first paragraph, as allegedly failing to comply with the written description requirement. This rejection is respectfully traversed.

The Patent Office alleges that the specification only discloses that the discrete backing member is positioned to abut the exit face of the work piece, and does not disclose that the backing member is positioned to abut the entire breakthrough region on the face of the work piece as required in claims 11 and 12. Applicants respectfully disagree with the Patent Office's allegation.

The Patent Office has quoted only a small part of the relevant part of the description, which (more fully) states "a discrete backing member is positioned abutting the face of the work piece through which the electrode exits." See page 1, lines 27-32 of the specification. However, the specification further describes that "the backing member should be positioned such that it forms a fluid tight seal with the work piece and such that it spans the break through region on the exit surface." See page 2, lines 18-21 of the specification. Applicants submit that this clearly discloses that the backing member is positioned to span and abut the entire breakthrough region on the face of the work piece through which the electrode exits as required in claims 11 and 12.

In addition, the specification describes that "backing member 22 forms a fluid tight seal with the exit face 20." See page 4, lines 10-12 of the specification. Applicants submit that this disclosure clearly explains that the backing member must form a fluid tight seal with the break through region of the exit surface, i.e., the backing member abuts the breakthrough region on the face of the work piece through which the electrode exits.

Moreover, the specification clearly explains that the recess shown in Figure 4 is created by the action of the electrode as it pushes through the work piece and deforms the

backing member. For example, see page 4, lines 19-23 of the specification. Figure 4 does not show how the work piece and the backing member appear when first assembled. Thus the backing member is positioned to span and abut the entire breakthrough region on the face of the work piece through which the electrode exits, as recited in claims 11 and 12.

Applicants submit that claims 11 and 12 meet the written description requirement. Reconsideration and withdrawal of the rejection are thus respectfully requested.

IV. Rejection Under 35 U.S.C. §102(b)

Claims 1 and 6 were rejected under 35 U.S.C. §102(b) as allegedly being anticipated by U.S. Patent No. 6,180,908 ("Tanishiki"). This rejection is respectfully traversed.

The Patent Office alleges that Tanishiki teaches an apparatus and method of electric discharge machining a passage through a work piece using a hollow electrode, wherein a discrete backing member is positioned abutting a face of the work piece through which the electrode exits so that the path of the flushing agent is not disrupted when the electrode breaks through the work piece. The Patent Office further alleges that the discrete backing member abuts the work piece. Applicants respectfully disagree with the Patent Office's allegations.

Applicants submit that Tanishiki does not contain all of the features recited in claims 1 and 6 as Tanishiki teaches that a recess in a backing member opposite the breakthrough region of the work piece is necessary. This is vastly different from the present claims 1 and 6.

Claims 1 and 6 require that the backing member must abut a face of the work piece through which the electrode exits. As explained in the present specification, this is so that a breakthrough of said electrode through said workpiece the path of the flushing agent is not disrupted. See page 1, lines 27-32 of the specification. That is to say, the backing member must abut the surface where the electrode breaks through, otherwise the path of the flushing agent will be disrupted.

As previously explained, Tanishiki teaches that upon breakthrough, the flushing agent flow is altered because the flushing agent must first fill the recess or concave portion of the jig prior to continuing the prior path. See Figure 3 of Tanishiki. Thus, Tanishiki does not teach or suggest that at breakthrough of the electrode through the work piece, the path of the flushing agent is not disrupted, as required in claims 1 and 6.

For the foregoing reasons, Applicants submit that Tanishiki does not teach or suggest all of the features recited in claims 1 and 6. Reconsideration and withdrawal of the rejection are thus respectfully requested.

V. Rejection Under 35 U.S.C. §103(a)

Claim 2 was rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Tanishiki in view of U.S. Patent No. 5,004,530 ("Tanaka"). This rejection is respectfully traversed.

Tanaka does not remedy the deficiencies of Tanishiki. Neither Tanishiki nor Tanaka teach or suggest a method where the backing member is positioned abutting "a face of the work piece through which the electrode exits so that a breakthrough of said electrode through said work piece the path of the flushing agent is not disrupted" as recited in claim 1.

Nowhere does Tanishiki or Tanaka discuss, or even hint, at a method where the "backing member is positioned such that it forms a fluid tight seal with the work piece" as recited in claim 2. Thus, Applicants submit that claim 2 is patentable.

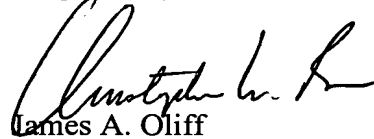
For the foregoing reasons, Applicants submit that Tanishiki and Tanaka, in combination or alone, do not teach or suggest the features recited in claim 2. Reconsideration and withdrawal of the rejection are thus respectfully requested.

VI. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-3, 6-8 and 11-12 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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